THE BERRYESSA CREEK SITE
CA-SCL-593

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ABSTRACT

This presentation discusses the nature and chronology of the Berryessa Creek site, CA-SCl-593, in light of frequent flooding known to have occurred in the region of the deposit. From archeological samples and cultural features excavated from the site it has been determined that the deposit functioned as a habitation site for a relatively short period of time. Radiocarbon dates from the upper and lower strata placed the antiquity between approximately 1320 ± 70 and 1660 ± 80 B.P. This short duration of the deposit is seen to result from the frequent flooding known to have occurred in this portion of the Santa Clara Valley during prehistoric times. An examination of other nearby sites and their chronological ranges supports this interpretation of flooding and indicates a general pattern of settlement relocation at this time in the lower elevations of the valley.

SITE DESCRIPTION

The site is located on the southwest boundary between the cities of Milpitas and San Jose along a channelized alignment of Berryessa Creek (Figure 1). Clearing of the channel and other construction at the site unearthed samples of the deposit which led to the identification and recording of the deposit.

During a field reconnaissance in early 1986, human remains were noted eroding from the bank of Berryessa Creek. This led to recording of the site along with small-scale salvage and testing work. The site was recorded in April with the trinomial CA-SCl-593 and called the Berryessa Creek site.

CA-SCl-593 is located on the east side of Milpitas Blvd. opposite the P.G.&E. substation in the City of Milpitas. The deposit is visible in the creek bank, on the levee, and is visible for approximately 40 meters east of Berryessa Creek. The midden deposit is approximately 80 meters in length and 60 meters in width. Where exposed, the midden depth is maximally 160 cm. A railroad bed lies across the midden east of Berryessa Creek. The majority of the site's integrity, with the exception of the railroad bed and creek channelization, appears to be intact. The surrounding countryside is a mosa-

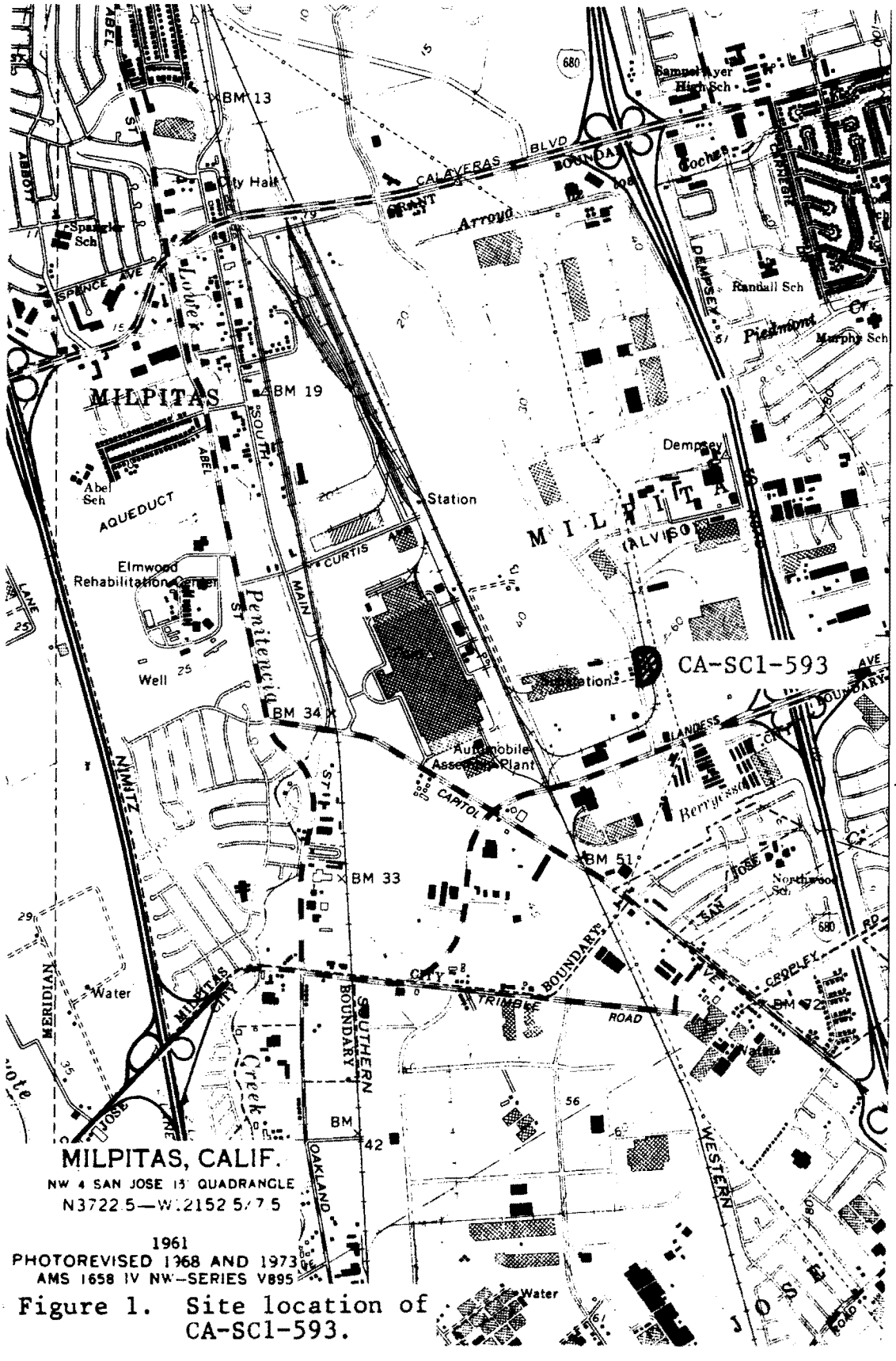

Figure 1. Site location of CA-SC1-593.

ic of grassland and oak trees where not covered in light industry.

The midden deposit consists of a dark discoloration of the soil present in the creek bank, large amounts of shell (Cerithidea, oyster, and clams) and bone fragments visible on the levee and in the field east of the creek channel. Earth excavated by rodents contains shell and bone fragments. Additional bone fragments were found in the creek bed. The midden soil is of a friable nature, not compact, with a low clay content. A distinct gravel feature with alluvial soil is present in the creek embankment below the cultural deposit.

Fieldwork was conducted on April 2, 1986, to recover an exposed burial being eroded into the creek. Approximately two cubic meters of deposit were removed and screened using 1/4 inch mesh screen. The site was excavated in 20 cm. levels with the burial situated in the 130-150 cm. level. The burial was pedestaled for photo documentation, and when removed, the pedestal soils were wet-screened using 1/16 inch mesh.

The burial (Burial 1) was the partial skeleton of a young female, 18 to 20 years of age. The cranium and remaining elements of the post-cranial skeleton were in good condition.

Artifactual material found during the excavation consisted mainly of fire-altered rock. A small number of chipped lithics of Franciscan chert and two groundstone artifacts were also recovered.

Faunal remains consisted of marine shellfish represented by oyster, Cerithidea, and bent-nosed clams. Terrestrial fauna was represented by bones of rodents, rabbit, and Columbian black-tailed deer. Notable was the surface recovery of a sea otter femur during the preexcavation survey, and a sea otter cranial base during a post-excavation survey.

To ascertain the antiquity of the deposit, a sample of 22 grams of shell (Cerithidea) was removed from level 110-130 cm. below the surface. Care was taken so that the sample did not come from the burial pit, but from what appeared to be intact midden. This sample was analyzed by Beta Analytic, Inc. (Beta 16149) and produced a radiocarbon date of 1660 $\pm$ 80 B.P. A second sample consisted of 41 grams of shell (Cerithidea) drived from an undisturbed portion of the site taken at the 20-30 cm. level. Beta Analytic, Inc. (Beta 16577) returned a radiocarbon data of 1320 $\pm$ 70 B.P.

A third excavation was conducted in July 1986 to exhume a second burial eroding from the west bank of the creek chan-

nel. The burial (Burial 2), which lay at the bottom of the midden deposit, proved to be that of a young child of undetermined sex.

Screened midden soil from the excavation yielded large amounts of shellfish (Cerithidea, oyster, bent-nosed clam). A small amount of waste chert chips were recovered as well as a broken charmstone.

The radiocarbon dating of CA-SCl-593 revealed the site's chronology to range from circa 1300 B.P. to 1700 B.P., placing it in the late phase of the Middle Period. This rather narrow occupation period is comparable to several sites in the North San Jose area. A comparison of radiocarbon dates from nearby sites in the Santa Clara Valley demonstrates an occupational pattern of restricted duration. Abandonment and resettlement appears to be repeatedly occurring within the same time frame at many sites. The presence of alluvial soils below and above the Berryessa Creek site, together with its narrow chronology, point to flooding in the Santa Clara Valley floor. This apparently caused a relocation of the site's inhabitants.

FLOODING AS A DETERMINANT OF SITE DURATION

The relatively short duration of the Berryessa Creek site can be explained by a discussion of the frequent flooding in the prehistoric past in this portion of the the Santa Clara Valley. According to the radiocarbon analysis, the site ranged in time over approximately 340 years. For a habitation site that included inhumations, this is a brief span of time. It is known from previous and ongoing studies of other prehistoric sites in this portion of the Santa Clara Valley that frequent site relocation took place. The creeks and rivers of the lower valley, particularly the Guadalupe River and Coyote Creek, were the main sources of fresh water for that region during prehistoric times. Seasonal flooding of these water systems is known to have been a common event previous to the historic flood prevention measures which included several reservoirs at the headwaters in the foothills of the Santa Clara Valley. Early historic records document widespread flooding on the valley floor into the early portion of the twentieth century. An example of this flooding can be seen in the recorded inundation of the original sites of Santa Clara Mission and the Pueblo of San Jose. Both sites were lost or greatly destroyed by flooding of the Guadalupe River in the winter of 1778-79 leading to their relocation to higher ground. In the prehistoric record, archeological data reveal several deposits in the lower valley which have been totally or partially covered by alluvial silts. At least half of these sites have been found in areas which do not contain a present source of fresh water, indicating that a once existent water source was naturally altered since the time of site formation.

A discussion of some of the prehistoric deposits which testify to the importance of flooding as a factor for interpreting settlement patterns is provided from sites off the Guadalupe River and North First Street in the cities of San Jose and Santa Clara. Along the present course of the Guadalupe River are the prehistoric deposits CA-SCl-7, -268, and -276 which have radiocarbon dates available. The North First Street complex of sites included CA-SCl-300, -302, and -418 which have been dated radiometrically. The radiocarbon dates from these sites are presented in Table 1.

It can be seen from the distribution of radiocarbon dates that the North First Street complex of sites range in time from approximately 2960 B.P. (CA-SCl-418) to 1450 B.P. (CA-SCl-302 and -300). The radiocarbon dates from the Guadalupe sites range from approximately 1500 B.P. (CA-SCl-276) to contact period times (CA-SCl-7). These data indicate a settlement pattern in which prehistoric habitation has been along the present course of the Guadalupe River for approximately the last 1500 years. Prior to that time habitation sites were situated along what is today North First Street. North First Street is known to have been built on a natural contour of high ground which is interpretated as a remnant river bank (Figure 2). It appears that the Guadalupe River was once aligned (prior to 1500 B.P.) along what is now N. First Street. The episodes of flooding known to have occurred in the Santa Clara Valley would account for the natural realignment in the course of the Guadalupe River (Cartier 1980b).

The example using the archeological deposits along the Guadalupe River and North First Street can be used to demonstrate why settlement at the Berryessa Creek site occurred over such a relatively short period of time. Frequent flooding in the valley most likely realigned fresh water systems which may have brought water to the area of CA-SCl-593. This process of flooding could have then again realigned the creek removing the fresh source from the area of the prehistoric site. Studies of the soil at the Berryessa Creek site indicate silty alluvium and stream gravels under the deposit and to the north of the deposit, whereas alluvial silt covered the top of the site in a thin layer. Additional evidence of flood activity affecting the use of the site is found in the comparison of the dates between the basal layer of CA-SCl-593 and the shift of habitation between North First Street and the Guadalupe River complex. Both of these events occurred within a 160 year period of time according to the radiocarbon dates, but these dates have a combined standard deviation of 180 years. It is thus possible that the same flooding process, if not the same episode, which caused the relocation of prehistoric populations from the North First Street to the Guadalupe River area also realigned the Berryessa Creek system to the site of CA-SCl-593. By examining the chronological range of CA-SCl-593 and the flooding history in the val-

TABLE 1

RADIOCARBON DATES

Site	Depth	Date B.P.	
Guadalupe River Sites:			
CA-SC1-6E	hearth	320 ± 30	
CA-SC1-7	0-10	480	
	160-170	560 ± 100	
CA-SC1-268	40-50	280 ± 90	
	110-140	440 ± 90	
	Burial	1110 ± 80	
CA-SC1-276	20-30	670 ± 100	
	220-250	1500 ± 100	*
North First Street:			
CA-SC1-418	Burial	2960 ± 100	
CA-SC1-300	Burial	1480 ± 140	**
	Burial	1760 ± 120	
	80-100	1930 ± 120	
	60-70	2010 ± 110	
	90-100	2080 ± 120	
	80-90	2290 ± 130	
	40-50	2310 ± 130	
	60-70	2460 ± 130	
CA-SC1-302	Burial	1450 ± 140	**
	50-70	1910 ± 170	

* early or basal date for settlement on present Guadalupe River

** terminal date for abandonment of North First Street complex

(Dates compiled from: Bard et al. 1986; Breschini, Haversat and Erlandson 1983; Cartier 1979, 1980a, 1981, 1983)

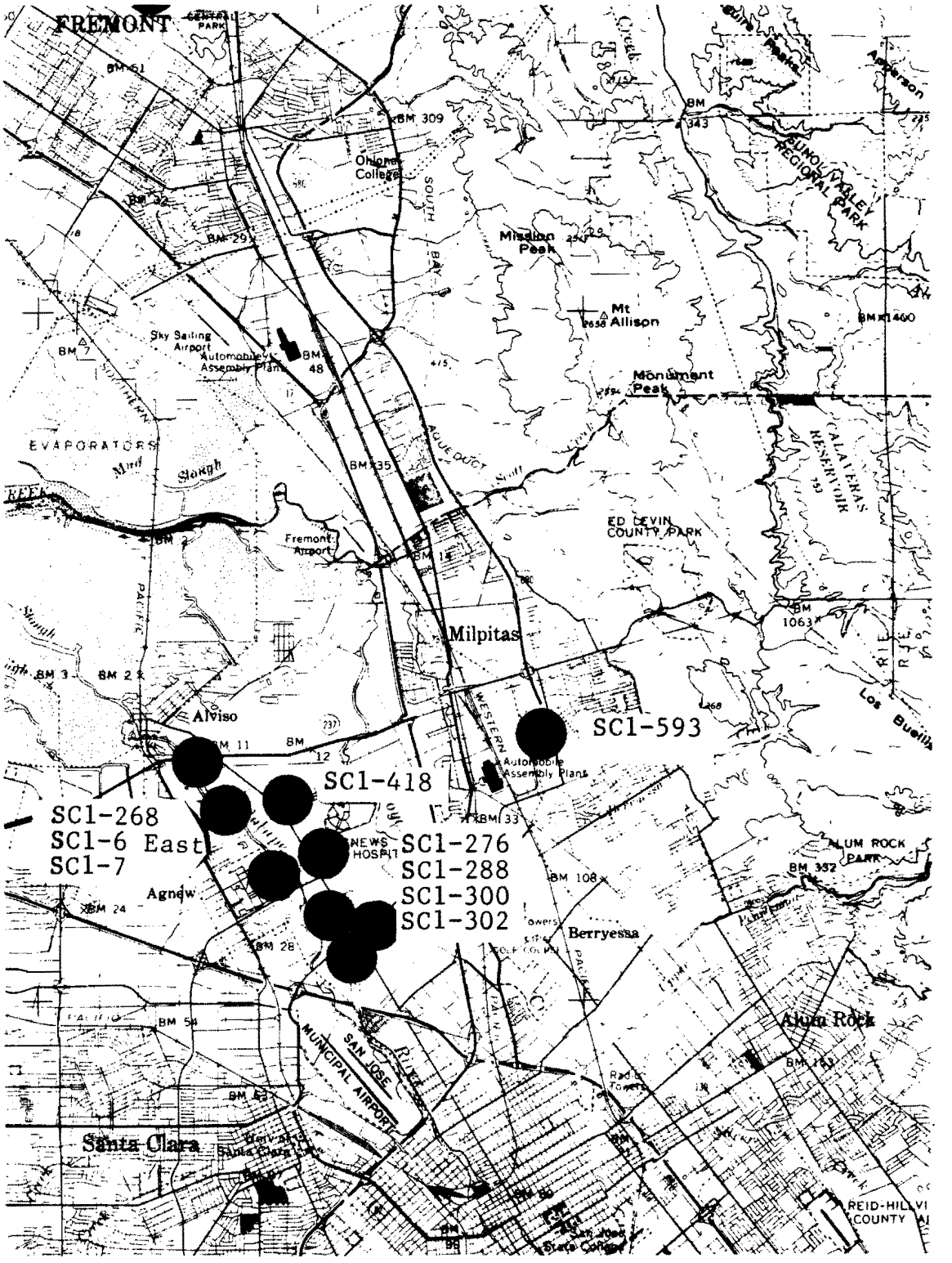

Figure 2. Sites used in the intersite discussions of flooding in the lower Santa Clara Valley.

ley, an argument can be made that the inundation and shifting water courses are a primary factor in understanding the settlement patterns of the South Bay.

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